

RHODE ISLAND ECONOMIC DEVELOPMENT CORPORATION
MEETING OF THE SCIENCE & TECHNOLOGY ADVISORY COUNCIL

PUBLIC SESSION

February 3, 2010

The Rhode Island Science & Technology Advisory Council (“STAC”) met on Wednesday, February 3, 2010 in Public Session at the offices of the Rhode Island Economic Development Corporation, Providence, Rhode Island pursuant to notice of the meeting to all Members and public notice of meeting, a copy of which is attached hereto, as required by applicable Rhode Island Law.

The following Members were present and participated throughout the meeting as indicated: Dr. Peter Alfonso, Dr. Timothy Babineau, Dr. Clyde Briant (Co-Chair), Dr. Pierre Corriveau, Dr. David Farmer (Co-Chair), Ms. Kimball Hall, Dr. David Hibbitt, Dr. Thomas Rockett, Dr. Donald Stanford

Members absent were Mr. Saul Kaplan, Dr. Margaret Leinen, Mr. Thomas Ryan and Dr. Jeffrey Seemann

Also present was Lt. Governor Roberts, RI EDC Executive Director Keith Stokes and RIEDC staff.

Welcome

Dr. Briant called the meeting to order at 9:05 a.m. He thanked everyone for attending the meeting and invited Lt. Governor Roberts to join him and co-chair Dr. David Farmer in announcing and recognizing the six teams receiving 2010 Collaborative Research awards.

Development of Novel Agents for Cancer Prevention and Therapy from the Natural Spice Turmeric: James N. Jacob, Ph.D, Organomed and Wayne Bowen, Ph.D, Brown University. This team will work to identify lead compounds from the traditional plant product turmeric and to develop new therapies for cancer prevention.

Novel Oral Fluid Based Methods for Non-Invasive Determination of Total Exposure to Active Immunosuppressive Agent: Fatemeh Akhlaghi, Ph.D, University of Rhode Island and Reginald Gohh, M.D, Rhode Island Hospital
This team will work to develop non-invasive saliva-based diagnostic kits to replace blood tests currently used to gauge the efficacy of anti-rejection for transplant patients.

Development of Durable Silicon Thin-Film Anodes and New Electrolytes for Lithium Batteries: Pradeep Guduru, Ph.D, Brown University, Christopher Bull, Ph.D, Brown University, Brett Lucht, Ph.D, University of Rhode Island

This team will work to develop a highly durable anode architecture for lithium batteries that will allow the batteries to withstand a large number of charge-discharge cycles with minimal cracking and damage. This type of breakthrough in battery materials technology is critical to the development of the next generation of low-cost, extended range electric vehicles.

Early Cancer Detection and Treatment Using Advanced Three-Dimensional Surface Texture Visualization and Modeling: Gabriel Taubin, Ph.D, Brown University, George E. Haleblan, M.D, Rhode Island Hospital, Jason D. Harry, Ph.D, Lucidux Corporation, LLC, Gyan Pareek, M.D; Rhode Island Hospital.

This team will work to develop improved 3D imaging technology to enhance the camera visualization models surgeons currently use. Mounted on the types of scopes that are increasingly being used for a range of minimally invasive surgical procedures this technology will allow surgeons to better view and analyze surface tissue texture.

Neuroprotective Anti-Inflammatory Strategies to Prevent Damage to the Premature Brain: Barbara Stonestreet, M.D, Women & Infants' Hospital of Rhode Island, James Padbury, M.D, Women & Infants' Hospital of Rhode Island, Yow-Pin Lim, Ph.D, ProThera Biologics, R. Choudary Hanumara, Ph.D, University of Rhode Island. This team will collect data to test a protein developed by ProThera Biologics that shows promise to prevent brain damage in premature infants.

Tripolar Concentric Ring Electrode Electroencephalogram (TCRE EEG) System - An Innovative Diagnostic Tool for Epilepsy: Walter G. Besio, Ph.D, University of Rhode Island, John Giatanis, M.D, Brown University, Michael Sullivan, M.S, Astro-Med Inc. This collaboration will work to develop a new electrode that will significantly improve the ability of doctors to correctly diagnose epilepsy and other neurological disorders.

Approval of Minutes

Citing no changes, upon a motion duly made by Dr. Rockett and seconded by Dr. Hibbitt, the minutes of the June 22, 2009 STAC meeting were accepted. Citing no changes, upon a motion duly made by Ms. Hall and seconded by Dr. Babineau, the minutes of the September 30, 2009 STAC meeting were accepted.

Climate Change in the Northeast: Observations, Projections and Impacts

David Hibbitt introduced the guest speaker, Professor Jerry Melillo who is a Senior Scientist and Director Emeritus at The Ecosystems Center of the Marine Biological Laboratory in Woods Hole, Massachusetts, USA, and a Professor of Biology at Brown University. Professor Melillo specializes in understanding the impacts of human activities on the biogeochemistry of ecological systems and over the past decade has co-

led two assessments for the US Global Change Research Program on the impacts of climate change on the United States; the first published in 2000 and the second published in 2009.

Professor Melillo informed the Council that climate change is happening and it is a “human-caused phenomenon”. This statement is backed by the majority of the world’s lead scientists and scientific academies, claiming global average temperatures will increase from 2 to 11.5 degrees Fahrenheit by the end of the century. Professor Melillo stated that carbon dioxide levels in the atmosphere are already 30 percent higher than they have been in the last 800,000 years. If this trend persists, Rhode Island could face summers similar to those on the Georgia-South Carolina border.

Professor Melillo expressed his frustration over non-believers and the “non-experts promoting the truth as they see it.” He reminded the Council that in the 1990s we talked about projections but now we have decades of observations to stand on. Dr. Farmer agreed that climate change needs to be taken into account when planning and educating and expressed his hope that the Council will take the opportunity to look for ways to respond intelligently.

Report on 2009 Initiatives

Dr. Farmer then reviewed the various initiatives STAC worked on in 2009 to support its overall goals to strengthen RI’s collaborative research platform, support entrepreneurship and innovation and increase the understanding of the impact of science on society. In addition to continuing efforts through the Collaborative Research Awards program, activities included support for the opening of RI-CIE, expansion of the STAC website to launch a new section on Federal Funding Opportunities, hosting of an Entrepreneurship Panel at Business EXPO, conducting an Assessment of RI’s Research Capacity, developing a State Science & Technology Plan, welcoming URI President David Dooley, coordinating the Second Annual Statewide Research Symposium, and supporting the IPIC and OSCAR initiatives.

Discussion of 2010 Initiatives

Dr. Briant announced that in 2010, STAC activities would once again insure that our statewide connectivity continues to grow and strengthen. Specific planned activities include a statewide tour to make the State S&T Plan a living document to be referenced and utilized as a guide for future activity, initiation of new ways to support collaborations such as the launch of a statewide working group on tech transfer, sponsored research and advancement offices to identify joint opportunities and continued participation in OSCAR. STAC would also develop new ways to boost commercialization such as increased Matchmaker events and a review of Tech Transfer policies in the state and will work to increase the measurement of the impact of current programs and communicate successes. New energy will also be dedicated to working with education partners to insure the vitality of the K-12 STEM pipeline and in producing a Rhode Island version of David MacKay’s “Sustainable Energy without the Hot Air” publication. This work will be completed in close partnership with the EDC to insure our activities are closely aligned.

New Business

There was no new business.

Adjournment

There being no further business in Public Session, upon a motion duly made by Dr. Babineau and seconded by Mr. Stanford, the meeting was adjourned at 10:30 a.m.

Christine M.B. Smith
Secretary